

ANTONIS ROKAS, Ph.D. – Brief Curriculum Vitae

Department of Biological Sciences
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BRIEF BIOGRAPHY:

I hold the Cornelius Vanderbilt Chair in Biological Sciences and I am a Professor in the Departments of Biological Sciences and of Biomedical Informatics at Vanderbilt University. I also serve as the Founding Director of the Vanderbilt Evolutionary Studies Initiative (<http://www.vanderbilt.edu/evolution>), an interdisciplinary center that unites scholars from diverse disciplines with broad interests and expertise in evolution-related fields. I received my undergraduate degree in Biology from the University of Crete, Greece (1998) and my PhD from Edinburgh University, Scotland (2001). Prior to joining Vanderbilt in the summer of 2007, I was a postdoctoral fellow at the University of Wisconsin-Madison (2002 – 2005) and a research scientist at the Broad Institute (2005 – 2007).

Research in my laboratory focuses on the study of the DNA record to gain insight into the patterns and processes of evolution. Through a combination of computational and experimental approaches, my laboratory's current research aims to understand the molecular foundations of the fungal lifestyle, the reconstruction of the tree of life, and the evolution of human pregnancy.

My team's research has been recognized by many awards, including a Searle Scholarship (2008), an NSF CAREER award (2009), and an endowed chair (2013). Most recently, I was named Blavatnik National Awards for Young Scientists Finalist (2017), Guggenheim Fellow (2018), Fellow of the American Academy of Microbiology (2019), and American Association for the Advancement of Science (AAAS) Fellow (2020).

CURRENT POSITIONS:

Vanderbilt University, USA	Director, Evolutionary Studies Initiative	2019–present
Vanderbilt University, USA	Professor of Biological Sciences	2015–present
Vanderbilt University, USA	Professor of Biomedical Informatics	2015–present
Vanderbilt University, USA	Cornelius Vanderbilt Chair in Biological Sciences	2013–present

EDUCATION AND TRAINING:

University of Crete, Greece	Biology	BS	1998
University of Edinburgh, UK	Evolutionary Biology	PhD	2001
University of Wisconsin, USA	Evolutionary Genomics	Postdoc	2002–2005

SELECT HONORS AND AWARDS:

- 2022, Visiting Research Fellow, Merton College, Oxford University, United Kingdom
- 2022, Klaus Tschira Guest Professor, Heidelberg Institute for Theoretical Studies, Germany
- 2020, Fellow of the American Association for the Advancement of Science
- 2019, Fellow of the American Academy of Microbiology
- 2018, Guggenheim Fellow in Molecular and Cellular Biology
- 2018, Chair, Cellular & Molecular Fungal Biology, Gordon Research Conference
- 2017, National Award Finalist, Blavatnik Awards for Young Scientists (US Competition)
- 2009, CAREER Award, National Science Foundation
- 2008, Searle Scholar Award, The Kinship Foundation
- 2002, Human Frontier Science Program Long-Term Fellowship
- 1998, Natural Environment Research Council Graduate Research Fellowship, UK

SELECT SERVICE:

2018–present, Advisory Board, *Current Biology*
2015–present, Associate Editor, *BMC Genomics*
2011–present, Associate Editor, *G3:Genes|Genomes|Genetics*
2016–2023, Board of Reviewing Editors, *eLife*
2018–2023, Senior Editor, *Microbiology Resource Announcements*

TEN REPRESENTATIVE RECENT PUBLICATIONS (Rokas lab members in bold):

1. **Rokas, A.** (2022). Evolution of the human pathogenic lifestyle in fungi. *Nature Microbiology* 7: 607-619
2. Steenwyk, J. L., M. A. Phillips, F. Yang, S. S. Date, T. R. Graham, J. Berman, C. T. Hittinger, & A. Rokas (2022). A gene coevolution network provides insight into eukaryotic cellular and genomic structure and function. *Science Advances* 8: abn0105
3. **Li, Y., J. L. Steenwyk**, Y. Chang, Y. Wang, T. Y. James, J. E. Stajich, J. W. Spatafora, M. Groenewald, C. W. Dunn, C. T. Hittinger, **X.-X. Shen[▲]**, & **A. Rokas[▲]** (2021). A genome-scale phylogeny of the kingdom Fungi. (^Senior authors) *Current Biology*: 31: 1653-1655
4. **Shen, X.-X.[▲]**, Y Li, C. T. Hittinger, X. Chen, & **A. Rokas[▲]** (2020). An investigation of irreproducibility in maximum likelihood phylogenetic inference. (^Senior authors) *Nature Communications* 11: 6096
5. **Steenwyk, J. L.***, **A. L. Lind***, L. N. A. Ries, T. F. dos Reis, L. P. Silva, F. Almeida, R. W. Bastos, T. F. C. F. Silva, V. L. D. Bonato, A. M. Pessoni, F. Rodrigues, H. A. Raja, S. L. Knowles, N. H. Oberlies, K. Lagrou, G. H. Goldman[▲], & **A. Rokas[▲]** (2020). Pathogenic allotetraploid hybrids of *Aspergillus* fungi. (*Equal contributors; ^senior authors) *Current Biology* 30: 2495-2507
6. **LaBella, A. L.***, A. Abraham*, Y. Pichkar, S. L. Fong, G. Zhang, L. J. Muglia, P. Abbot, **A. Rokas[▲]**, & J. A. Capra[▲] (2020). Accounting for diverse evolutionary forces reveals mosaic patterns of selection on human preterm birth loci. (*Equal contributors; ^senior authors) *Nature Communications* 11: 3731
7. **Steenwyk, J. L.**, D. A. Opulente, J. Kominek, **X.-X. Shen**, **X. Zhou**, **A. L. LaBella**, N. P. Bradley, B. F. Eichman, N. Čadež, D. Libkind, J. DeVirgilio, A. B. Hulfachor, C. P. Kurtzman, C. Hittinger[▲], & **A. Rokas[▲]** (2019). Extensive loss of cell cycle and DNA repair genes in an ancient lineage of bipolar budding yeasts. *PLoS Biology* 17: e3000255
8. **Shen, X.-X.***, D. A. Opulente*, J. Kominek*, **X. Zhou***, **J. L. Steenwyk**, K. V. Buh, M. A. B. Haase, **J. H. Wisecaver**, **M. Wang**, D. T. Doering, J. T. Boudouris, R. M. Schneider, Q. K. Langdon, M. Ohkuma, R. Endoh, M. Takashima, R. Manabe, N. Čadež, D. Libkind, C. A. Rosa, J. DeVirgilio, A. B. Hulfachor, M. Groenewald, C. P. Kurtzman, C. T. Hittinger[▲], & **A. Rokas[▲]** (2018). Tempo and mode of genome evolution in the budding yeast subphylum. *Cell* 175: 1533-1545
9. **Rokas, A.**, **J. H. Wisecaver**, & **A. L. Lind** (2018). The birth, evolution and death of metabolic gene clusters in fungi. *Nature Reviews Microbiology* 16: 731–744
10. **Shen, X.-X.**, C. T. Hittinger, & **A. Rokas** (2017). Contentious relationships in phylogenomic studies can be driven by a handful of genes. *Nature Ecology and Evolution* 1: 0126

ANTONIS ROKAS, Ph.D. – Full Curriculum Vitae

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CURRENT POSITIONS

- 2019–present** Founding Director, Vanderbilt Evolutionary Studies Initiative
2015–present Professor of Biological Sciences, Vanderbilt University
2015–present Professor of Biomedical Informatics, Vanderbilt University
2013–present Cornelius Vanderbilt Chair in Biological Sciences, Vanderbilt University

PAST POSITIONS

- 2013–2015** Associate Professor of Biological Sciences, Vanderbilt University
2013–2015 Associate Professor of Biomedical Informatics, Vanderbilt University
2007–2012 Assistant Professor of Biological Sciences, Vanderbilt University
2005–2007 Research Scientist, The Broad Institute of MIT & Harvard
2002–2005 Post-doctoral Fellow, University of Wisconsin-Madison, Advisor: S. B. Carroll
1998–2001 Doctoral Student, University of Edinburgh, Advisor: G. N. Stone
1997–1998 Undergraduate Exchange Student, Reading University, Advisor: P. W. H. Holland
1996–1997 Undergraduate Thesis Student, University of Crete, Advisor: E. Zouros

EDUCATION

- 2001** **Ph.D., Evolutionary Biology** University of Edinburgh, United Kingdom
1998 **B.Sc., Biology** University of Crete, Greece

AWARDS, FELLOWSHIPS, AND PROFESSIONAL HONORS

- 2022** Visiting Research Fellow, Merton College, Oxford University, United Kingdom
2022 Klaus Tschira Guest Professor, Heidelberg Institute for Theoretical Studies, Heidelberg, Germany
2020 Fellowship, American Association for the Advancement of Science
2019 Fellowship, American Academy of Microbiology
2018 Guggenheim Fellowship
2018 Biological Sciences Excellence in Research Award
2018 Chair (elected), Cellular and Molecular Fungal Biology Gordon Research Conference
2017 National Finalist, Blavatnik Awards for Young Scientists
2017 Biological Sciences Excellence in Research Award
2017 Littlejohn Faculty Fellow
2016 Vice-chair (elected), Cellular and Molecular Fungal Biology Gordon Research Conference
2015 Guest Editor for *Genomes and Evolution* special issue of *Current Opinion in Genetics and Development*
2015 Biological Sciences Excellence in Research Award
2013–present Cornelius Vanderbilt Chair of Biological Sciences
2013 Biological Sciences Excellence in Research Award

2011	Chancellor's Award for Research
2009	NSF CAREER Award
2008	Searle Scholar
2002–2005	Human Frontier Science Program Long-Term Fellowship
1998–2001	Natural Environment Research Council Studentship
1997–1998	Greek Foundation of State Scholarships for Undergraduate Study Abroad

RESEARCH INTERESTS

- ❖ The evolution of fungal specialized metabolic pathways and chemodiversity
- ❖ The repeated evolution of fungal pathogens of humans
- ❖ The evolution of human pregnancy
- ❖ Phylogenetics and phylogenomics of fungi and animals

FUNDING

National Science Foundation	Advisor, 6/23-5/26, NSF Postdoctoral Fellowship Award to Kyle T. David, Testing the Latitudinal Diversity Gradient, \$240,000
Swedish Pharmaceutical Society	Advisor, 2/23-1/25, Elisabeth and Alfred Ahlqvist Foundation Postdoctoral Fellowship Award to Karin Steffen, Evolution and diversity of secondary metabolites in <i>Aspergillus</i> section <i>Fumigati</i> , \$96,000
National Institutes of Health	Advisor, 8/22-7/25, F31 Pre-doctoral Research Fellowship Award to E. Anne Hatmaker, Examining the role of opportunistic human pathogen <i>Aspergillus flavus</i> in fungal keratitis eye infections, \$92,634
National Institutes of Health	PI, 12/21-11/26, R01 grant, Deciphering the phenotypic and genomic traits that underlie the evolution of pathogenicity differences among <i>Aspergillus fumigatus</i> and its close relatives, \$3,723,728
National Science Foundation	PI (with C. T. Hittinger, PI), 07/21-07/26, Collaborative Research: RoL: The Evolution of the Genotype-Phenotype Map across Budding Yeasts, \$949,985
Burroughs Wellcome Trust	PI, 06/21-10/24, A Community Resource to Reveal Mechanisms for Mammalian Birth Timing, \$225,000
National Institutes of Health	PI, 09/20-08/22, R56 grant, Deciphering the phenotypic and genomic traits that underlie the evolution of pathogenicity differences among <i>Aspergillus fumigatus</i> and its close relatives, \$592,432
Howard Hughes Medical Institute	Advisor, 09/19-08/22, Gilliam Fellowship for Advanced Study to Jacob L. Steenwyk, Examining the loss of diverse DNA repair genes and long-term hypermutation in a lineage of budding yeasts, \$150,000
Burroughs Wellcome Trust	PI (with J. A. Capra, PI), 06/17-05/22, Integrating 'omics and electronic health records to elucidate the genetic architecture of preterm birth, \$300,000
March of Dimes	PI / Theme Leader (with P. Abbot, PI; K. Petren, PI), 7/13-12/22, The March of Dimes Prematurity Research Collaborative of Ohio (Director L. J. Muglia), Theme 1: Evolutionary Synthesis of Human Pregnancy, ~\$2,000,000

National Science Foundation	PI (with C. T. Hittinger, PI; C. P. Kurtzman, Co-PI), 02/15-01/22, DIMENSIONS: Collaborative Research: The making of biodiversity across the yeast subphylum, \$851,102
National Science Foundation	Advisor, 09/14-08/17, National Plant Genome Initiative Postdoctoral Research Fellowship to Jennifer H. Wisecaver, The evolution of secondary metabolic gene clusters in plants, \$207,000
National Institutes of Health	Co-PI (PI R. R. Dinglasan), 07/14-06/16, Midgut transcriptome and proteome analysis of non-model anopheline malaria vectors, \$180,175
National Institutes of Health	Co-Advisor (with L. J. Zwiebel), 12/12-11/15, F31 Pre-doctoral Research Fellowship Award to David C. Rinker, Chemosensory signatures of hematophagy in mosquitoes, \$81,708
National Science Foundation	PI, 09/09-08/14, CAREER: A genomics approach to identifying the factors influencing phylogenetic accuracy, \$688,129
National Institutes of Health	Advisor, 08/10-07/12, F31 Pre-doctoral Research Fellowship Award to John G. Gibbons, Characterizing the genomic patterns of variation in the fungal pathogen <i>Aspergillus fumigatus</i> , \$50,352
Searle Scholars Program	PI, 07/08-06/11, Deciphering the origins and assembly of the genetic toolkit for animal development, \$300,000
National Science Foundation	Advisor, 09/08-08/10, Postdoctoral Fellowship in Biological Informatics to Jason C. Slot, Dynamics and ecological significance of the origins, order and inheritance of fungal gene clusters, \$120,000

UNDERGRADUATE TEACHING

BSCI1511	<i>Introduction to Biological Sciences</i> , Vanderbilt Univ., 2015–present
BSCI3333	<i>Contagion</i> , Vanderbilt Univ., 2021
BSCI6320	<i>Graduate Seminar in Biological Sciences</i> , Vanderbilt Univ., 2018–2021, 2023
BSCI2205	<i>Evolution</i> , Vanderbilt Univ., 2010–2017
BSCI2272	<i>Genome Science</i> , Vanderbilt Univ., 2010–2013
BSCI3861-BSCI4999	<i>Research for Academic Credit Courses</i> , Vanderbilt Univ., every semester

INVITED ADVANCED TEACHING

Workshop on Phylogenomics – Europe, 2017, 2019, 2024 (co-director)
 Workshop on Genomics – Europe, 2011–2016, 2018, 2019
 Workshop on Molecular Evolution – MBL, USA, 2010–2015
 EMBO/Wellcome Trust Computational Molecular Evolution Workshop, 2010–2014
 Workshop on Molecular Evolution – Europe, 2010–2013

ADVISING

Research Assistant Professors

David C. Rinker (2022-present)

Postdoctoral fellows

Jason C. Slot (2008–2013; now Associate Professor, The Ohio State Univ., USA)
 Ioannis Stergiopoulos (2011; now Associate Professor, Univ. of California, Davis, USA)

Padmanabhan Mahadevan (2009-2010; now Associate Professor, Tampa Univ., USA)
Xiaofan Zhou (2011-2016; now Professor, South China Agricultural Univ., China)
Kriston L. McGary (2009-2016; now Head of Computational Biology, Alden Scientific, USA)
Jennifer H. Wisecaver (2013-2017; now Associate Professor, Purdue Univ., USA)
Julie B. Phillips (2014-2017; now Associate Professor, Cumberland Univ., USA)
Mingshuang Wang (2017-2018; now Assistant Prof., Hangzhou Normal Univ., China)
Youhuang Bai (2017-2018; now Assistant Prof., Fujian Agriculture & Forestry Univ., China)
Xing-Xing Shen (2014-2019; now Assistant Professor, Zhejiang Univ., China)
Yuanning Li (2019-2021; now Professor, Shandong University, China)
Matthew E. Mead (2015-2022; now Computational Biologist, Gingko Bioworks)
Abigail L. LaBella (2017-2022; now Assistant Professor, Univ. North Carolina–Charlotte, USA)
Carla Gonçalves (2022; now Junior Researcher, Universidade Nova de Lisboa, Portugal)
Kyle David (2022-present)
Dana Lin (2022-present)
Karin Steffen (2023-present)
Thomas Sauters (2023-present)

Graduate students

John G. Gibbons (2012; now Associate Professor, Univ. Massachusetts-Amherst, USA)
Leonidas Salichos (2014; now Assistant Professor, New York Inst. of Technology)
David C. Rinker (co-advisor with L. J. Zwiebel, 2015; now Research Assistant Professor, Vanderbilt Univ., USA)
Yuyu Wang (visiting graduate student; now Professor, Hebei Agricultural University, USA)
Abigail Lind (2017; now Assistant Professor, Georgia Institute of Technology, USA)
Haley Eidem (2018; now Quantitative UX Researcher, Google, USA)
Mara Kim (2018; now Senior Software Engineer, Microsoft, USA)
Juan F. Ortiz (2019; now Research Scientist, National Univ. of Singapore, Singapore)
Michelle Moon (2019; now Data Visualization Specialist, Tennessee Dept. Education, USA)
Renato Santos (2021; now postdoc, Univ. Sao Paulo, Brazil)
Jacob L. Steenwyk (2022; now postdoc, Univ. California Berkeley, USA)
E. Anne Hatmaker (2023; now postdoc, United States Dpmt of Agriculture, USA)
Alec Brown (current)
Marie-Claire Harrison (current)
Christina Chavez (current)
Thodoris Danis (current)
Olivia Riedling (current)

Masters students

Patricia Soria (2014; now graduate student, Univ. of Florida, USA)
Kenneth Polzin (2014; now independent consultant, biodiversity informatics)

Undergraduate students

Matthew E. Campbell (2012; PhD from Univ. Montana; now postdoc, New England Biolabs, USA)
Mara Kim (2012; PhD from Vanderbilt Univ.; now Senior Software Engineer, Microsoft, USA)
Martha H. Elmore (2013; PhD from Harvard Univ.; now Researcher, Rethink Priorities, USA)
George H. Greene (2014; PhD from Duke Univ.; now Chief Scientific Officer at Upstream Biotechnology, USA)
Brian A. Cooper (2015; now Software Engineer at Opentrons Labworks, USA)
Sean B. King (2016; PhD from Princeton Univ.; now Consultant at Bain & Company, USA)
Samuel A. Smith (2017; now graduate student, Brown Univ. USA)

Rebecca Burke-Aguero (2017; now software developer, Microsoft, USA)
Alexander T. Borowsky (2018; now graduate student, Univ. of California, Riverside, USA)
Zackery Ely (2018; now graduate student, MIT, USA)
Maddison Johnson (2018; now Doctor of Veterinary Medicine candidate, Midwestern University College of Veterinary Medicine, USA)
Megan A. Phillips (2020; now graduate student, Emory University, USA)
Olivia Zheng (2021; now graduate student, Stanford University, USA)
Miya Hugaboom (2022; now research assistant, Yale University, USA)
Charu Balamurugan (2021-present)
Corey Wiseman (2023-present)
Gideon Kpurubu (2023-present)
Rene Huerta (2023-present)

PROFESSIONAL AFFILIATIONS

Society for Molecular Biology and Evolution, Society for the Study of Evolution, Society of Systematic Biologists, Mycological Society of America, Genetics Society of America, American Association for the Advancement of Science, American Society of Microbiology.

CONSULTING

2020 – present LifeMine Therapeutics, Cambridge, MA

EDITED VOLUMES

2015 Rokas, A., & P. S. Soltis, Editors. Special issue on Genomes and Evolution. *Curr. Op. Genet. Dev.*, volume **35**: 1-126.

PEER-REVIEWED PUBLICATIONS (Rokas Lab Members in Bold)



Google Scholar publication statistics
Number of publications: 233
Number of citations: ~25,300
h-index: 82

2023 Ye, R., M. Biango-Daniels, **J. L. Steenwyk, A. Rokas**, N. Louw, R. Nardella, & B. E. Wolfe. Genomic, transcriptomic, and ecological diversity of *Penicillium* species in cheese rind microbiomes. *Fungal Genet. Biol.*: in press.

Chavez, C. M., M. Groenewald, A. B. Hulfachor, **G. Kpurubu, R. Huerta**, C. T. Hittinger, & **A. Rokas**. The cell morphological diversity of Saccharomycotina yeasts. *FEMS Yeast Res.*: in press.

Jones, R. E., A. K. Tice, M. Eliáš, L. Eme, M. Kolísko, S. Nenarokov, T. Pánek, **A. Rokas**, E. Salomaki, J. F. H. Strassert, X.-X. Shen, D. Žihala, & M. W. Brown. Create, analyze, and visualize phylogenomic datasets using PhyloFisher. *Curr. Prot.*: in press.

Riedling, O., A. S. Walker, & **A. Rokas**. Predicting fungal secondary metabolite activity from biosynthetic gene cluster data using machine learning. *Microbiol. Spectr.*: in press.

Wolters, J. F., A. L. LaBella, D. Opulente, **A. Rokas**, & C. T. Hittinger. Mitochondrial genome diversity across the subphylum Saccharomycotina. *Front. Microbiol.* **14**: 1268944.

Steenwyk, J. L., **A. Rokas**, & G. H. Goldman. Know the enemy and know yourself: Addressing cryptic fungal pathogens of humans and beyond. *PLoS Path.* **19**: e1011704.

Steenwyk, J. L., Y. Li, X. Zhou, X.-X. Shen, & **A. Rokas**. Incongruence in the phylogenomics era. *Nature Rev. Genet.* **24**: 834-850.

Bradshaw, M. J., M. C. Aime, **A. Rokas**, A. Maust, S. Moparthi, K. Jellings, A. M. Pane, D. Hendricks, B. Pandey, Y. Li, & D. H. Pfister. Extensive intragenomic variation in the internal transcribed spacer (ITS) region of fungi. *iScience* **26**: 107317.

Hatmaker, E. A., J. E. Schmitz, & **A. Rokas**. Draft genomes of *Aspergillus nomiae* and *Aspergillus tamarii* isolates from human eye infections. *Microbiol. Resour. Announc.* **12**: e00391-23.

Groenewald, M., C. T. Hittinger, K. Bensch, D. A. Opulente, X.-X. Shen, **Y. Li**, C. Liu, **A. L. LaBella**, X. Zhou, S. Limtong, S. Jindamorakot, P. Gonçalves, V. Robert, K. H. Wolfe, C. A. Rosa, T. Boekhout, N. Čadež, G. Péter, J. P. Sampaio, M.-A. Lachance, A. M. Yurkov, H.-M. Daniel, M. Takashima, K. Boundy-Mills, D. Libkind, & **A. Rokas**. A genome-informed higher rank classification of the biotechnologically important fungal subphylum Saccharomycotina. *Stud. Mycol.* **105**: 1-22.

Nalabothu, R. L., K. J. Fisher, **A. L. LaBella**, T. A. Meyer, D. A. Opulente, J. F. Wolters, **A. Rokas**, & C. T. Hittinger. Codon optimization improves the prediction of xylose metabolism from gene content in budding yeasts. *Mol. Biol. Evol.* **40**: msad111.

Ngo, K., T. H. Gittens, D. I. Gonzalez, **E. A. Hatmaker**, S. Plotkin, M. Engle, G. A. Friedman, M. Goldin, R. E. Hoerr, B. F. Eichman, **A. Rokas**, M. L. Benton, & K. L. Friedman. A comprehensive map of hotspots of *de novo* telomere addition in *Saccharomyces cerevisiae*. *Genetics*: iyad076.

M. E. Mead, P. A. Castro, **J. L. Steenwyk**, J.-P. Gangneux, M. Hoenigl, J. Prattes, R. Rautemaa-Richardson, H. Guegan, C. B. Moore, C. Lass-Floerl, F. Reizine, C. Valero, N. van Rhijn, M. J. Bromley, **A. Rokas**[^], G. H. Goldman[^], & S. Gago[^]. COVID-19 Associated Pulmonary Aspergillosis isolates are genetically diverse but similar to each other in their responses to infection-relevant stresses. (^Senior authors) *Microbiol. Spectr.* **11**: e05128-22.

Sierra-Patev, S., B. Min, M. Naranjo-Ortiz, B. Looney, Z. Konkel, J. C. Slot, Y. Sakamoto, **J. L. Steenwyk**, **A Rokas**, J. Carro, S. Camarero, P. Ferreira, G. Molpeceres, F. J. Ruiz-Dueñas, A. Serrano. B. Henrissat, E. Drula, K. W. Hughes, J. L. Mata, N. K. Ishikawa, R. Vargas-Isla, S. Ushijima, C. A. Smith, J. Donoghue, S. Ahrendt, W. Andreopoulos, G. He, K. LaButti, A. Lipzen, V. Ng, R. Riley, L. Sandor, K. Barry, A. T. Martínez, Y. Xiao, J. G. Gibbons, K. Terashima, I. V. Grigoriev, & D. Hibbett. A global phylogenomic analysis of the shiitake genus *Lentinula*. *Proc. Natl. Acad. Sci. USA* **120**: e2214076120.

Abraham, A., **A. L. LaBella**, M. L. Benton, **A. Rokas**, & J. A. Capra. GSEL: A fast, flexible python package for detecting signatures of diverse evolutionary forces on genomic regions. *Bioinformatics* **39**: btad037.

Sole-Navais, P., C. Flatley, V. Steinthorsdottir, M. Vaudel, J. Juodakis, J. Chen, T. Laisk, **A. L. LaBella**, D. Westergaard, J. Bacelis, J. Juodakis, B. Brumpton, L. Skotte, M. C. Borges, O. Helgeland, A. Mahajan, M. Wielscher, F. Lin, C. Briggs, C. A. Wang, G.-H. Moen, R. N. Beaumont, J. P. Bradfield, A. Abraham, G. Thorleifsson, M. E. Gabrielsen, S. R. Ostrowski, D. Modzelewska, E. A. Nohr, E. Hypponen, A. Srivastava, O. Talbot, C. Allard, S. M. Williams, R. Menon, B. M. Shields, G. Sveinbjornsson, H. Xu, M. Melbye, L. Jr. William, L. Bouchard, E. Oken, O. B. Pedersen, D. F. Gudbjartsson, C. Erikstrup, E. Sorensen, Early Growth Genetics Consortium, Estonian Biobank Research Team, Danish Blood Donor Study Genomic Consortium, R. T. Lie, K. Teramo, M. Hallman, T. Juliusdottir, H. Hakonarson, H. Ullum, A. T. Hattersley, L. Sletner, M. Merialdi, S. Rifas-Shiman, T. Steingrimsdottir, D. Scholtens, C. Power, J. West, M. Nyegaard, J. A. Capra, A. H. Skogholt, P. Magnus, O. A. Andreassen, U. Thorsteinsdottir, S. F. A Grant, E. Qvigstad, C. E. Pennell, M.-F. Hivert, G. M. Hayes, M.-R. Jarvelin, M. I. McCarthy, D. A. Lawlor, H. S. Nielsen, R. Magi, **A. Rokas**, K. Hveem, K. Stefansson, B. Feenstra, P. Njolstad, L. J. Muglia, R. M. Freathy, S. Johanson, G. Zhang[^], & B. Jacobsson[^]. Genetic effects on the timing of parturition and links to fetal birth weight. (^Senior authors). *Nature Genet.* **55**: 559-567.

Hugaboom, M., E. A. Hatmaker[^], A. L. LaBella, & A. Rokas[^]. Evolution and codon usage bias of mitochondrial and nuclear genomes in *Aspergillus* section *Flavi*. (^Senior authors). *G3* **13**: jkac285.

2022 Li, Y.[^], H. Liu, J. L. Steenwyk, A. L. LaBella, M.-C. Harrison, M. Groenewald, X. Zhou, X.-X. Shen, T. Zhao, C. T. Hittinger, & **A. Rokas[^]**. Contrasting modes of macro and microsynteny evolution in a eukaryotic subphylum. (^Senior authors) *Curr. Biol.* **32**: 5335-5343.e4.

Abraham, A.* **A. L. LaBella***, J. A. Capra[^], & **A. Rokas[^]**. Mosaic patterns of selection in genomic regions associated with diverse human traits. (*Equal contributors; ^Senior authors). *PLoS Genet.* **18**: e1010494.

Hatmaker, E. A., M. Rangel-Grimaldo, H. A. Raja, H. Pourhadi, S. L. Knowles, K. Fuller, E. M. Adams, J. D. Lightfoot, R. W. Bastos, G. H. Goldman, N. H. Oberlies, & **A. Rokas**. Genomic and phenotypic trait variation of the opportunistic human pathogen *Aspergillus flavus* and its non-pathogenic close relatives. *Microbiol. Spectr.* **10**: e0306922.

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- Slot, J. C. & A. Rokas.** Horizontal transfer of a large and highly toxic secondary metabolic gene cluster between fungi. *Curr. Biol.* **21**: 134-139.

- 2010** Carnahan, R. H.* **A. Rokas***, E. A. Gaucher & A. B. Reynolds. The molecular evolution of the p120-catenin subfamily and its functional associations. (*Equal contributors) *PLoS One* **5**: e15747.
- Slot, J. C. & A. Rokas.** Multiple *GAL* pathway gene clusters evolved independently and by different mechanisms in fungi. *Proc. Natl. Acad. Sci. USA* **107**: 10136-10141.
- Hittinger, C. T., P. Gonçalves, J. P. Sampaio, J. Dover, M. Johnston & **A. Rokas**. Remarkably ancient balanced polymorphisms in a multi-locus gene network. *Nature*: **464**: 54-58.
- Salichos, L. & A. Rokas.** The diversity and evolution of circadian clock proteins in fungi. *Mycologia* **102**: 269-278.
- Gibbons, J. G.**, M. A. Klich & **A. Rokas**. Developing highly conserved microsatellite markers: a case study in the filamentous fungal genus *Aspergillus*. *Mol. Ecol. Resources* **10**: 404-408.
- Hittinger, C. T., M. Johnston, **J. T. Tossberg & A. Rokas**. Leveraging skewed transcript abundance by RNA-Seq to increase the genomic depth of the tree of life. *Proc. Natl. Acad. Sci. USA* **107**: 1476-1481.
- 2009** **Gibbons, J. G.**, E. Janson, C. T. Hittinger, M. Johnston, P. Abbot & **A. Rokas**. Benchmarking next-generation transcriptome sequencing for functional and evolutionary genomics. *Mol. Biol. Evol.* **26**: 2731-2744.
- Rokas, A.** & P. Abbot. Harnessing genomics for evolutionary insights. *Trends Ecol. Evol.* **24**: 192-200.
- Gibbons, J. G. & A. Rokas**. Comparative and functional characterization of intragenic tandem repeats in ten *Aspergillus* genomes. *Mol. Biol. Evol.* **26**: 591-602.
- Rokas, A.** The effect of domestication on the fungal proteome. *Trends Genet.* **25**: 60-63.
- 2008** **Rokas, A.** The origins of multicellularity and the early history of the genetic toolkit for animal development. *Ann. Rev. Genet.* **42**: 235-251.
- Rokas, A.** The molecular origins of multicellular transitions. *Curr. Opin. Genet. Dev.* **18**: 472-478.
- Rokas, A.**, & S. B. Carroll. Frequent and widespread parallel evolution of protein sequences. *Mol. Biol. Evol.* **25**: 1943-1953.
- Mathee, K. et al. (19 co-authors, including **A. Rokas**). Dynamics of *Pseudomonas aeruginosa* genome evolution. *Proc. Natl. Acad. Sci. USA* **105**: 3100-3105.
- King, N. et al. (34 co-authors, including **A. Rokas** and JGI Sequencing). The genome of the choanoflagellate *Monosiga brevicollis* and the origins of metazoan multicellularity. *Nature* **451**: 783-788.
- Stone, G. N., R. J. Atkinson, **A. Rokas**, J.-L. Nieves-Aldrey, G. Melika, Z. Acs, G. Csóka, A. Hayward, R. Bailey, C. Buckee & G. A. T. McVean. Evidence for widespread cryptic sexual generations in apparently purely asexual *Andricus* gallwasps. *Mol. Ecol.* **17**: 652-665.
- 2007** **Rokas, A.** et al. (15 co-authors). What can comparative genomics tell us about species concepts in the genus *Aspergillus*? *Studies in Mycology* **59**: 11-17.

Stone, G. N., R. J. Challis, R. J. Atkinson, G. Csóka, A. Hayward, G. Melika, S. Mutun, S. Preuss, **A. Rokas**, E. Sadeghi, & K. Schönrogge. The phylogeographic clade trade: Tracing the impact of human-mediated dispersal on the colonisation of northern Europe by the oak gallwasp *Andricus kollari*. *Mol. Ecol.* **16**: 2768-2781.

Stone, G. N., R. J. Challis, S. Mutun, J.-L. Nieves-Aldrey, S. Preuss, **A. Rokas**, A. Aebi, E. Sadeghi, & M. Tavakoli. Longitudinal range expansion and cryptic eastern species in the western Palaearctic oak gallwasp *Andricus coriarius*. *Mol. Ecol.* **16**: 2103-2114.

Ane, C., B. Larget, D. A. Baum, S. D. Smith, & **A. Rokas**. Bayesian estimation of concordance among trees. *Mol. Biol. Evol.* **24**: 412-426.

2006 **Rokas, A.** & Carroll, S. B. Bushes in the Tree of Life. *PLOS Biol.* **11**: e352.

Jeong, S., **A. Rokas** & S. B. Carroll. Regulation of body pigmentation by the Abdominal-B Hox protein and its gain and loss in *Drosophila* evolution. *Cell* **125**: 1387-1399.

Prud'homme, B., N. Gompel, **A. Rokas**, V. A. Kassner, T. M. Williams, S.-D. Yeh, J. R. True & S. B. Carroll. Repeated morphological evolution through cis-regulatory changes in a pleiotropic gene. *Nature* **440**: 1050-1053.

2005 **Rokas, A.**, D. Krueger & S. B. Carroll. Animal evolution and the molecular signature of radiations compressed in time. *Science* **310**: 1933-1938.

Rokas, A. & S. B. Carroll. More genes or more taxa? The relative contribution of gene number and taxon number to phylogenetic accuracy. *Mol. Biol. Evol.* **22**: 1337-1344.

2004 Hittinger, C. T., **A. Rokas** & S. B. Carroll. Parallel inactivation of multiple *GAL* pathway genes and ecological diversification in yeasts. *Proc. Natl. Acad. Sci. USA* **101**: 14144-14149.

2003 **Rokas, A.***, B. L. Williams*, N. King & S. B. Carroll. Genome-scale approaches to resolving incongruence in molecular phylogenies. (*Equal contributors) *Nature* **425**: 798-804.

Rokas, A., E. Ladoukakis, & E. Zouros. Animal mitochondrial DNA recombination revisited. *Trends Ecol. Evol.* **18**: 411-417.

Rokas, A., R. J. Atkinson, L. W. I. Webster & G. N. Stone. Out of Anatolia: Longitudinal gradients in genetic diversity support a Turkish origin for a circum-Mediterranean oak gallwasp *Andricus quercustozae*. *Mol. Ecol.* **12**: 2153-2174.

Cummings, M. P., S. A. Handley, D. S. Myers, D. L. Reed, **A. Rokas** & K. Winka. Comparing bootstrap and posterior probability values in the four-taxon case. *Syst. Biol.* **52**: 477-487.

Rokas, A.*, N. King*, J. R. Finnerty & S. B. Carroll. Conflicting phylogenetic signals at the base of the metazoan tree. (*Equal contributors) *Evol. Devel.* **5**: 346-359.

Rokas, A., G. Melika, Y. Abe, J.-L. Nieves-Aldrey, J. M. Cook & G. N. Stone. Lifecycle closure, lineage sorting, and hybridization revealed in a phylogenetic analysis of European oak gallwasps (Hymenoptera: Cynipidae: Cynipini) using mitochondrial sequence data. *Mol. Phylog. Evol.* **26**: 36-45.

2002 Cook, J. M., **A. Rokas**, M. Pagel & G. N. Stone. Evolutionary shifts between host oak species and host plant organs in *Andricus* gallwasps. *Evolution* **56**: 1821-1830.

Stone, G. N., R. J. Atkinson, G. Brown, & **A. Rokas**. The population genetic consequences of range expansion: a review of pattern and process, and the value of oak gallwasps as a model system. *Biodiversity Science*, 10: 80-97.

Rokas, A., R. J. Atkinson, J.- L. Nieves-Aldrey, S. A. West & G. N. Stone. The incidence and diversity of *Wolbachia* in gallwasps (Hymenoptera; Cynipidae) on oak. *Mol. Ecol.* **11**: 1815-1829.

Rokas, A., J. A. A. Nylander, F. Ronquist & G. N. Stone. A maximum likelihood analysis of eight phylogenetic markers in gallwasps (Hymenoptera: Cynipidae); implications for insect phylogenetic studies. *Mol. Phylog. Evol.* **22**: 206-219.

2001 Rokas, A., R. J. Atkinson, G. S. Brown, S. A. West & G. N. Stone. Understanding patterns of genetic variation in the oak gallwasp *Biorhiza pallida*: demographic history or a *Wolbachia* selective sweep? *Heredity* **87**: 294-304.

Stone, G. N., R. J. Atkinson, **A. Rokas**, G. Csóka & J.- L. Nieves-Aldrey. Differential success in northwards range expansion between ecotypes of the marble gallwasp *Andricus kollari*: a tale of two refugia. *Mol. Ecol.* **10**: 761-778.

2000 Rokas, A. & P. W. H. Holland. Rare genomic changes as a tool for phylogenetics. *Trends Ecol. Evol.* **15**: 454-459.

Averof, M., **A. Rokas**, K. H. Wolfe & P. M. Sharp. Evidence for a high frequency of simultaneous double-nucleotide substitutions. *Science* **287**: 1283-1286.

1999 Rokas, A., J. Kathirithamby & P. W. H. Holland. Intron insertion as a phylogenetic character: the *engrailed* homeobox of Strepsiptera does not indicate affinity with Diptera. *Insect Mol. Biol.* **8**: 527-530.

BOOK CHAPTERS

2018 Abbot, P., **H. R. Eidem, & A. Rokas** (2018). Preterm birth. In “Encyclopedia of Evolutionary Psychological Science”, Shackelford T. & V. Weekes-Shackelford (Eds.), Springer, Cham.

2016 Rokas, A. Systematics in the age of genomics. In “Next Generation Systematics”, P. D. Olson, J. Hughes, & J. A. Cotton (Eds.), Cambridge University Press, pp. 219-228.

2008 Rokas, A. & S. Chatzimanolis. From gene-scale to genome-scale phylogenetics; the data flood in but the challenges remain. In “Phylogenomics” W. J. Murphy (Ed.), Methods in Molecular Biology series, Humana Press, Totowa, NJ, pp. 1-12.

Geiser, D. M., R. A. Samson, J. Varga, **A. Rokas** and S. M. Witiak. A review of molecular phylogenetics in *Aspergillus*, and prospects for a robust genus-wide phylogeny. In “*Aspergillus* in the Genomics Era”, Varga, J., and R. A. Sampson (Eds.), Wageningen Academic Publishers, pp. 17-32.

Rokas, A. & J. E. Galagan. The *Aspergillus nidulans* genome and comparative analysis with other Aspergilli. In “The Aspergilli: Genomics, Medical Applications, Biotechnology, and Research Methods”, Osmani, S. A. and G. H. Goldman, CRC Press, pp. 43-55.

2006 Atkinson, R. J., **A. Rokas** & G. N. Stone. Longitudinal patterns in species richness and genetic diversity in European oaks and oak gallwasps. In: “Phylogeography in southern European refugia: Evolutionary Perspectives on the origins and conservation of European Biodiversity”, S. Weiss, N. Ferrand (Eds). Kluwer, The Netherlands.

2003 Stone, G. N., R. J. Atkinson, G. Brown, **A. Rokas** & G. Csóka. The population genetic consequences of range expansion: oak gallwasps as a model system. In: "Genes in the Environment", R. S. Hails, J. E. Beringer and H. C. J. Godfray (Eds), Blackwell and the British Ecological Society, pp. 46-62.

SELECT RECENT COMMENTARIES

- 2018** Riquelme, M., M. C. Aime, S. Branco, A. Brand, A. Brown, L. N. Glass, R. Kahmann, M. Momany, **A. Rokas** & F. Trail. The power of discussion: support for women at the fungal Gordon Research Conference. *Fungal Genet. Biol.* **121**: 65-67.
- 2017** Shropshire, J. D. & **A. Rokas**. The gene family that cheats Mendel. *eLife* **6**: e28567.
- Abbot, P. & **A. Rokas**. Mammalian pregnancy. *Curr. Biol.* **27**: R127-R128.
- 2013** **Rokas, A.** My oldest sister is a sea walnut? *Science* **342**: 1327-1329.
- Rokas, A.** *Aspergillus*. *Curr. Biol.* **23**: R187-R188.

INVITED TALKS

- 2023** Tuesday Seminar Series, University Program in Genetics and Genomics, Duke University, NC
Friday Seminar, John Innes Centre, Norwich, UK
Pittsburgh Center for Evolutionary Biology and Medicine, University of Pittsburgh, PA
- 2022** Institut Pasteur, Paris, France
Milner Centre for Evolution, University of Bath, Bath, UK
Hellenic Evolutionary Society Virtual Seminar Series
Institute of Evolutionary Biology, University of Edinburgh, UK
Kew Royal Botanical Gardens, London, UK
Department of Systematic Biology, Uppsala University, Uppsala, Sweden
Perinatology Research Branch / National Institute of Child Health and Human Development / National Institutes of Health Virtual Lecture Series
Department of Biology, Oxford University, Oxford, UK
Keynote Lecture, 2022 Molecular Biology of Fungi Symposium, Kaiserslautern, Germany
Leibniz Institute for Natural Product Research and Infection Biology, Hans Knöll Institute, Jena, Germany
Karlsruhe Institute of Technology, Karlsruhe, Germany
Heidelberg Institute for Theoretical Studies, Heidelberg, Germany
Invited Panelist, Cellular and Molecular Fungal Biology Gordon Research Seminar, Holderness, NH
Invited Speaker, Cellular and Molecular Fungal Biology Gordon Research Conference, Holderness, NH
- 2021** Guest Lecturer, St. Jude Graduate School of Biomedical Sciences (online)
Guest Lecturer, Mycology course in Swedish Agricultural University (online)
Invited Speaker, Microbial Resource Research Infrastructure (MIRRI) Consortium webinar (online)
March of Dimes Prematurity Research Centers Annual Symposium (online)
Invited Speaker, Organisms and Evolution Seminar Series, Department of Biology, Duke University, Durham, NC (online)
Invited Speaker, American Phytopathology Society, Denver, CO (online)
Invited Speaker, 2021 Women's Health Research Symposium, Vanderbilt Genetics Institute, Nashville, TN (online)

Centro de Investigación Científica y de Educación Superior de Ensenada CICESE, Baja California, México (online)
Stowers Institute for Medical Research, Kansas City, MO (online)

- 2020** Invited Panelist, ASAPBio: Accelerating Science and Publication in Biology Virtual Conversation on “The past, the present and the future of preprints” (online)
Invited Speaker, Seminar Series to Celebrate 50 Years from the Foundation of the Biology Department of the National Kapodistrian University of Athens, Greece (cancelled due to COVID-19)
Invited Speaker, Molecular Mechanisms in Evolution and Ecology EMBL Virtual Conference
Invited Panelist, Club EvMed — Virtual Evolutionary Medicine Conversations
Invited Speaker, American Phytopathology Society, Denver, CO (cancelled due to COVID-19)
Invited Speaker, Cellular and Molecular Fungal Biology Gordon Research Conference, Holderness, NH (cancelled due to COVID-19)
Mushroom Club of Georgia, Athens, GA (online)
South Carolina Upstate Mycological Society, Greenville, SC (online)
Plenary Speaker, 15TH European Conference on Fungal Genetics, Rome, Italy
Darwin Day Speaker, Cumberland University, Lebanon, TN
- 2019** Invited Speaker, 12th International Bioinformatics conference, Crete, Greece
Department of Plant and Microbial Biology, University of Minnesota, MN
Department of Botany and Plant Pathology, Purdue University, IN
Invited Speaker, “Fungal threats to animal, plant and ecosystem health” Symposium, Ribeirão Preto, São Paulo, Brazil
LifeMine Company, Cambridge, MA
PostDoc-Invited Seminar Speaker, University of Florida Whitney Lab, FL
Genetics/Genomics seminar series, North Carolina State University, NC
HudsonAlpha, Huntsville, AL
- 2018** Wellcome Sanger Institute, UK
University of Lausanne, Switzerland
University College London, UK
Keynote Speaker, 34th International Specialized Symposium on Yeasts, Cletus Kurtzman’s Workshop on Taxonomy and Systematics of Yeasts, Bariloche, Argentina
Keynote Speaker, Auburn University Bioinformatics Bootcamp 2018, Auburn, AL
March of Dimes Prematurity Research Centers Annual Symposium, San Diego, CA
Invited Speaker, “Advances and Retreats in Molecular Evolution” Workshop, Nanyang Technological University, Singapore
- 2017** Keynote Speaker, iGenovores Meeting on “The Future of Yeast Genomics”, Paris, France
Invited Speaker, XIII International Meeting on Paracoccidioidomycosis 2017, Iguassu Falls, Brazil
Invited Speaker, no 29º Congresso Brasileiro de Microbiologia 2017, Iguassu Falls, Brazil
Department of Pathology, Microbiology, and Immunology, Vanderbilt University, Nashville, TN
Bridging Speaker, International Congress of Mycology and Eukaryotic Microbiology, Singapore
Heidelberg Institute for Theoretical Studies, Heidelberg, Germany

Plenary Speaker, 7th Advanced Lecture Course on Human Fungal Pathogens, Nice, France

Invited Speaker, Society for Reproductive Investigation Annual Meeting, Orlando, FL
March of Dimes Prematurity Research Centers Annual Symposium, Orlando, FL

- 2016** Plenary Speaker, Burroughs Wellcome-Fund/March of Dimes Biennial Preterm Birth Symposium, Research Triangle Park, NC
Graduate Student-Invited Speaker, Department of Organismal Biology, Uppsala University, Uppsala, Sweden
Distinguished Lectures in Microbiology, Department of Bacteriology, University of Wisconsin-Madison, WI
Division of Biological Sciences, University of Missouri, MO
Dimensions of Fungal Biodiversity Symposium, Mycological Society of America Meeting, Berkeley, CA
Department of Biology, Middle Tennessee State University, Murfreesboro, TN
March of Dimes Prematurity Research Centers Annual Symposium, Montreal, Canada
Department of Chemistry & Biochemistry, University of North Carolina Greensboro, Greensboro, NC
Plenary Speaker, "Evolution, of Cells, Genomes and Proteins" Workshop, Nanyang Technological University, Singapore
- 2015** Plenary Speaker, Society of Systematic Biologists Standalone Meeting, Ann Arbor, MI
Plenary Speaker, "Phylogeny meets genomics" workshop, Center for Advanced Studies (CAS), Ludwig-Maximilians-University, Munich, Germany
Plenary Speaker, "Genomes to Secondary Metabolites", GSC-17 Satellite Workshop, DOE Joint Genome Institute, Walnut Creek, CA
Plenary Speaker, "Genomics of Energy and the Environment" meeting, DOE Joint Genome Institute, Walnut Creek, CA
March of Dimes Prematurity Research Centers Annual Symposium, San Francisco, CA
- 2014** Plenary Speaker, Comparative and Functional Genomics of Fungal Pathogens, Current Trends in Biomedicine Series, International University of Andalusia, Baeza, Spain
Evolution Seminar Series, University of Wisconsin-Madison, WI
Department of Genetics, University of Wisconsin-Madison, WI
Center for Bioinformatics Research, Indiana University, IN
Session Chair and Discussion Leader, Cellular and Molecular Fungal Biology Gordon Research Conference, Holderness, NH
Plenary Speaker, XVI International Congress on Molecular Plant-Microbe Interactions, Rhodes, Greece
Plenary Speaker, Protein Structure and Protein Evolution Symposium, Royal Swedish Academy of Sciences
Organismic and Evolutionary Biology Seminar Series, Univ. Massachusetts-Amherst, MA
Plenary Speaker, 12th European Conference on Fungal Genetics, Seville, Spain
- 2013** Department of Plant Pathology, North Carolina State University, Raleigh, NC
American Museum of Natural History, New York, NY
Department of Plant Pathology, ETH Zurich, Switzerland
European Bioinformatics Institute, Hinxton, UK
Plenary Speaker, Italian Zoological Association Spring School on "Metazoan Phylogeny and Evolution", Venice, Italy
Plenary Speaker, 27TH Fungal Genetics Meeting, Asilomar, CA

Plenary Speaker, 10TH International *Aspergillus* Meeting, Asilomar, CA
Cornell Center for Comparative and Population Genomics, Cornell University, NY
Department of Ecology and Evolutionary Biology, Yale University, CT

2007 – 2012 (Invited talks as Assistant Professor)

- (2012) Department of Genetics, University of Georgia, GA
(2012) Plenary Speaker, The 13th Annual Vanderbilt Genetics Symposium on “Evolution and the Genetic Basis for Human Disease”, Vanderbilt University, TN
(2012) Plenary Speaker, Graduate Research School in Genomic Ecology Summer Meeting, Lund, Sweden
(2012) Plenary Speaker, Cellular and Molecular Fungal Biology Gordon Research Conference, Holderness, NH
(2012) Plenary Speaker, HHMI Bioinformatics Workshop for Student-Scientist Partnerships, Chevy Chase, MD
(2012) Institute for Molecular Biology and Biotechnology, University of Crete, Greece
(2012) Plenary Speaker, 5TH Advances Against Aspergillosis Meeting, Istanbul, Turkey
(2012) Department of Biological Sciences, University of Alabama, AL
(2011) Department of Entomology, University of Maryland, MD
(2011) Department of Biological Science, University of Pittsburgh, PA
(2011) Plenary Speaker, Smithsonian Initiative in Biodiversity Genomics Lectures, Washington, DC
(2011) Plenary Speaker, 26TH Fungal Genetics Meeting, Asilomar, CA
(2010) Department of Ecology and Evolutionary Biology, University of Tennessee-Knoxville, TN
(2010) Department of Parasitology and Mycology, Institut Pasteur, Paris, France
(2010) Department of Biological and Environmental Sciences, University of Tennessee-Chattanooga, TN
(2010) Department of Ecology and Evolution, Michigan University, Ann Arbor, MI
(2009) Plenary Speaker, 100th International Titisee Conference on “Genome evolution and the origin of novel gene functions”, Lake Titisee, Germany
(2009) Plenary Speaker, IGERT Deep Genomics Symposium, Arizona University, Tucson, AZ
(2009) Plenary Speaker, “Evolutionary Biology: 150 Years After *The Origin*”, University of Michigan Life Sciences Institute Eighth Annual Symposium, Ann Arbor, MI
(2009) Department of Biology, IGERT Seminar Series, Indiana University, Bloomington, IN
(2009) Plenary Speaker, International Symposium on Deep Metazoan Phylogeny, Berlin, Germany
(2009) Department of Integrative Biology, University of Guelph, Ontario, Canada
(2008) Plenary Speaker, Entomological Society of America Annual Meeting, Reno, NV
(2008) Department of Genetics, Washington University in St. Louis, MO
(2008) Plenary Speaker, XII International Congress of Mycology, Istanbul, Turkey
(2008) Plenary Speaker, 33rd FEBS Congress / 11th IUBMB Conference, Athens, Greece
(2008) Plenary Speaker, Society of Molecular Biology and Evolution Annual Meeting, Barcelona, Spain
(2008) Infectious Disease Rounds, Vanderbilt University Medical Center, Nashville, TN

2000 – 2007 (Invited talks as graduate student, postdoc, or research scientist)

- (2007) Plenary Speaker, Comparative Genomics of Eukaryotic Microorganisms ESF-EMBO Symposium, San Feliu de Guixols, Spain
(2007) Department of Plant Pathology, Pennsylvania State University, PA
(2007) Plenary Speaker, “*Aspergillus* systematics in the genomics era” Symposium, CBS Fungal Biodiversity Centre, Utrecht, The Netherlands
(2007) Plenary Speaker, “Tree of Life” Symposium, University of Iowa, IA

(2007) Department of Biology, Johns Hopkins University, MD
(2007) Department of Biology, Boston College, MA
(2007) Department of Biology, Georgetown University, DC
(2006) Department of Earth & Planetary Sciences, Harvard University, MA
(2006) Bay Paul Center for Comparative Molecular Biology and Evolution, Marine Biological Laboratory, MA
(2006) Department of Biological Sciences, Vanderbilt University, TN
(2006) Department of Biology, Clark University, MA
(2006) Department of Biology, Duke University, NC
(2006) Plenary Speaker, IXTH International Fungal Biology Conference & 16TH New Phytologist Symposium on “Impact of Genomics on Fungal Biology”, Nancy, France
(2006) Plenary Speaker, Joint meeting of American Phytopathological Society, Canadian Phytopathological Society & Mycological Society of America, Symposium on “Gene Clustering as a Mechanism for Microbial Innovation”, Quebec City, Canada
(2006) Department of Earth, Atmospheric and Planetary Sciences, MIT, MA
(2006) Darwin Day Speaker, Department of Biology, St. John’s University, NY
(2005) Plenary Speaker, Phylogeography and Phylogenetics Workshop, Mathematical Biosciences Institute, Ohio State University, OH
(2005) The Broad Institute of MIT & Harvard, MA
(2004) Department of Biology, New York University, NY
(2004) Department of Biology, Boston College, MA
(2004) Plenary Speaker, Mycological Society of America, Symposium on “Phyloinformatics”, Ashville, NC
(2004) Plenary Speaker, Royal Netherlands Academy of Arts and Sciences, Colloquium on “Fungal Phylogenomics”, Amsterdam, The Netherlands
(2004) Plenary Speaker, Workshop Research School on “Phylogenomics of Fungi”, Utrecht, The Netherlands
(2003) Department of Entomology, University of Wisconsin-Madison, WI
(2002) Department of Ecology and Evolutionary Biology, University of Kansas, KS
(2000) Department of Zoology, Reading University, U.K.

NATIONAL AND INTERNATIONAL ACADEMIC AND PUBLIC SERVICE ACTIVITIES

Editorial Board Member

Journal of Fungi (2019–)
Current Biology (2018–)
eLife (2016–)
BMC Genomics (2015–)
PLoS ONE (2014–)
BMC Microbiology (2013–)
G3:Genes|Genomes|Genetics (2011–)
Journal of Biological Research (2010–)
Genomics Insights (2009–)
Evolution, Medicine, & Public Health (2014–2019)
Fungal Genetics and Biology (2014–2021)
Frontiers in Microbiology (2018–2020)
Microbiology Resource Announcements (2018–2023)

Manuscript Reviewer

I review many manuscripts per year and have served as a reviewer for dozens of top-flight journals, including: *BioEssays*, *Bioinformatics*, *BMC Biology*, *BMC Evol. Biol.*, *BMC*

Genomics, *BMC Microbiol.*, *Cell*, *Chem. & Biol.*, *Curr. Biol.*, *Development*, *Euk. Cell*, *Evolution*, *Evol. Med. Public Health*, *Fungal Genet. Biol.*, *Gene*, *Genetics*, *Genes Dev.*, *Evol.*, *Genome Biol.*, *Genome Res.*, *Heredity*, *Integr. Comp. Biol.*, *J. Theor. Biol.*, *Mol. Biol. Evol.*, *Mol. Ecol.*, *J. Biol. Rhythms*, *J. Mol. Evol.*, *Mol. Phylog. Evol.*, *Mycologia*, *Nature*, *Nature Ecol. Evol.*, *Nature Comm.*, *New Phytol.*, *The Plant Cell*, *PLOS Biol.*, *PLOS Comp. Biol.*, *PLOS Genet.*, *PLOS One*, *PLoS Path.*, *Proc. Roy. Soc. Lond. Ser. B.*, *PNAS*, *Science*, *Science Signalling*, *Trends Ecol. Evol.*, *Trends Genet.*, and *Zoology*.

Book / Book Proposal Reviewer

W. W. Norton, Princeton University Press, Roberts & Company, W. H. Freeman.

Grant Reviewer

2023, Beckman Scholars Program Advisory Panel
2023, NIH/NAIAD Special Emphasis Panel on Genomics Centers for Infectious Diseases
2022, NSF Panel
2021, NIH/NIAID Special Emphasis Panel on Coccidiomycosis Collaborative Research Centers
2021, HHMI Gilliam Fellowship Program, Stage 1 Reviewer
2015, NASA Panel
2012, NSF Panel
2010, NSF Panel
2007–present, Ad hoc grant reviewer for NIH (USA), NSF (USA), The Wellcome Trust (UK), NASA (USA), BBSRC (UK), Marsden Fund (New Zealand), ANR (France), FCT (Portugal), STW (The Netherlands)

Promotion / Tenure Evaluation Writer

Academia Sinica (Taiwan), Baylor University, Clark University, College of William & Mary, Cumberland University, Dalhousie University (Canada), Duke University, Emory University, Foundation for Research & Technology–Hellas (Greece), Iowa State University, Max Planck Society (Germany), Michigan State University, North Carolina State University, Northern Illinois University, Ohio State University, Pontifical Catholic University of Chile (Chile), University of Alberta (Canada), University of California–Berkeley, University of Crete (Greece), University of Denver, University of Florida, University of Maryland, University of Massachusetts–Amherst, University of Michigan, University of Minnesota, University of Mississippi, University of North Carolina–Chapel Hill, University of Pittsburgh, University of Rochester, University of Southern California, University of Texas–Austin, University of Wisconsin–Madison, Vanderbilt University Medical Center, Washington Univ. St Louis.

Conference Organizer

2008, Member of Program Committee, 6th RECOMB Comparative Genomics Satellite Workshop, October 13–15, 2008, Paris, France
2014, Member, Scientific Board for the Congresses of the International Union of Microbiological Societies (IUMS 2014), Montréal, Canada
2016, Vice Chair, Gordon Research Conference on Cellular and Molecular Fungal Biology
2018, Chair, Gordon Research Conference on Cellular and Molecular Fungal Biology
2022, Scientific Organizer, EMBO Workshop on Molecular Mechanisms in Evolution and Ecology
2024, Scientific Organizer, EMBO Workshop on Molecular Mechanisms in Evolution and Ecology

Other Scientific Service

- 2023–2028**, Member of International Steering Committee, Brazilian National Institute of Science and Technology in Human Pathogenic Fungi (FUNVIR)
- 2021–2023**, Councilor of Genetics/Cell Biology, Mycological Society of America
- 2017**, International Society for Evolution, Medicine & Public Health Omenn Prize Committee
- 2016–2019**, Member, Advisory Board, Placental Atlas Tool Project, NIH/NICHD
- 2013–2016**, Member (2 years), Chair (1 year), and Former Chair (ex officio, 1 year), Karling Annual Lecture Committee, Mycological Society of America
- 2015–present**, Aspergillus Scientific Advisory Team, *FungiDB*
- 2013–2015**, Member, Aspergillus Genomes Research Policy Committee, Genetics Society of America

GRADUATE ADVISING

Graduate Thesis Committees

- Brian Robertson (2007 – 2009, member, Biological Sciences program)
- John G. Gibbons (2007 – 2012, advisor and member, Biological Sciences program)
- Leonidas Salichos (2008 – 2014, advisor and member, Biological Sciences program)
- Chunyao Wei (2009 – 2013, member, Biological Sciences program)
- Kamya Rajaram (2010 – 2014, member, Biological Sciences program)
- Robert Brucker (2010 – 2013, member, Biological Sciences program)
- Cassidy C. Cobbs (2011 – 2014, member, Biological Sciences program)
- Gregory Colby (2011 – 2012, member, Biological Sciences program)
- Sarah P. Lawson (2011 – 2014, member, Biological Sciences program)
- Lisa J. Funkhouser (2011 – 2016, member, Biological Sciences program)
- Mahesh Rao (2012 – 2016, member, Biological Sciences program)
- Diana Cha (2013 – 2017, member, Biological Sciences program)
- Garrett P. League (2013 – 2017, member, Biological Sciences program)
- Haley E. Eidem (2013 – 2018, advisor and member, Biological Sciences program)
- Mara Kim (2013 – 2018, advisor and member, Biological Sciences program)
- Abigail L. Lind (2014 – 2017, advisor and chair, Biomedical Informatics program)
- Andrew Brooks (2015 – 2019, member, Human Genetics program)
- Esther Epum (2015 – 2019, member, Biological Sciences program)
- Ling Chen (2016 – 2019, chair, Biological Sciences program)
- Stephanie Birnbaum (2016 – 2019, member, Biological Sciences program)
- Michelle Moon (2016 – 2019, co-advisor and member, Biological Sciences program)
- Juan F. Ortiz (2016 – 2019, advisor and member, Biological Sciences program)
- Michael Sivley (2017 – 2018, member, Biomedical Informatics program)
- Abigail Searfoss (2017 – 2020, member, Chemical & Physical Biology program)
- Dylan Shropshire (2017 – 2020, chair, Biological Sciences program)
- Abin Abraham (2018 – 2021, chair, Biomedical Informatics program)
- Mary Lauren Benton (2018 – 2020, member, Biomedical Informatics program)
- Souhrud Mukherjee (2018 – 2022, chair, Biological Sciences program)
- Nikita Tsyba (2018 – 2023, chair, Biological Sciences program)
- Melanie Hurst (2018 – 2022, member, Microbe-Host Interactions program)
- Jacob Steenwyk (2018 – 2022, advisor and member, Biological Sciences program)
- Katrina Ngo (2019 – 2023, chair, Biological Sciences program)
- Souradip Das (2019 – 2022, member, Biological Sciences program)
- Parker Rundstrom (2019 – 2022, chair, Biological Sciences program)
- Andrea Shiakolas (2019 – 2022, member, Microbe Host Interactions program)

Alec Brown (2020 – present, advisor and member, Biological Sciences program)
E. Anne Hatmaker (2020 – 2023, advisor and member, Biological Sciences program)
Adriana Norris (2020 – 2023, chair, Biological Sciences program)
Robert Markowitz (2020 – 2022, chair, Biological Sciences program)
Yakov Pichkar (2020 – 2023, chair, Biological Sciences program)
Keila Velazquez Arcelay (2020 – 2023, chair, Biological Sciences program)
Marie-Claire Harrison (2021 – present, advisor, Biological Sciences program)
Linhe (Alex) Xu (2021 - present, member, Psychological Sciences program)
Lindsay Martin (2022 – present, chair, Biological Sciences program)
Darra Boyer (2022 – present, member, Biological Sciences program)
Reese Martin (2022 – present, chair, Biological Sciences program)
Carl Stone (2022 – present, member, Biological Sciences program)
Audrey Arner (2023 – present, chair, Biological Sciences program)
Owen Hale (2023 – present, chair, Biological Sciences program)
Ximena Leon (2023 – present, chair, Biological Sciences program)
Sadiq Rahman (2023 – present, member, Biological Sciences program)
Thodoris Danis (2023 – present, advisor, Biological Sciences program)
Samuel Oyedele (2023 - present, member, Chemistry program)

Graduate Thesis Committees Outside Vanderbilt University

Jeremy Levy (2018, University College London, UK, external examiner)
Sonja Knowles (2018 – 2021, Univ. North Carolina, Greensboro, external member)
Caesar Al Jewari (2022, Uppsala University, Sweden, opponent)

ADMINISTRATIVE, COMMITTEE, AND OTHER SERVICE

To Department

2007 – 2008, Member, Faculty Search Committee, Evolutionary Ecology
2008 – 2012, Co-Organizer, Departmental Seminar Series
2011 – 2013, Member, Departmental Graduate Program Committee
2013 – 2014, Chair, Faculty Search Committee
2013 – 2014, Leader of Biological Sciences faculty efforts to retain Dr. John Anthony Capra to Vanderbilt Univ. through his move from the School of Medicine to the School of Arts and Science
2014 – 2019, Member, Mentorship Committee of Assistant Professor John A. Capra
2014 – 2015, Member, Undergraduate Curriculum Committee
2014 – 2015, Member, Faculty Search Committee
2015 – 2016, Member, Faculty Search Committee
2016 – present, Member, Awards Committee
2017 – present, Member, Mentorship Committee of Assistant Professor Nicole Creanza
2019 – 2020, Member, Mentorship Committee of Associate Professor John A. Capra
2019 – present, Member, Mentorship Committee of Associate Professor Patrick Abbot
2019 – present, Member, Mentorship Committee of Associate Professor Larisa R. G. DeSanctis
2019 – 2020, Chair, Faculty Search Committee, Evolutionary Anthropology
2019 – 2020, present, Member, Departmental Building / Space Committee
2020 – present, Member, Mentorship Committee of Assistant Professor Megan L. Behringer
2021 – 2022, Chair, Faculty Search Committee, Evolutionary Biochemistry
2022 – present, Member, Mentorship Committee of Assistant Professor Allison Walker
2022 – present, Member, Mentorship Committee of Assistant Professor Amanda Lea
2022 – present, Member, Mentorship Committee of Assistant Professor Gianni Castiglione

To College

- 2013 – 2014, Member, Junior Advisory Review Committee
- 2013 – present, Member, Advisory Committee for Scientific Computing
- 2015 – 2019, Member, Committee on Individual Programs
- 2019 – 2020, Chair, Ad Hoc Promotion Review Committee
- 2021 – 2022, Member, Faculty Search Committee, Biomedical Anthropology, Department of Anthropology
- 2023 – 2024, Member, Senior Advisory Review Committee

To University

- 2010 – 2012, Member, Provost's Graduate Fellowship Topping Up Award Selection Committee
- 2010 – 2015, Member, Graduate Faculty Delegate Assembly Representative for the Human Genetics Graduate Program
- 2013 – 2014, Member, Trans-institutional Programs Steering Committee
- 2013 – 2014, Member, Vanderbilt University Medical Center Faculty Search Committee for the chair of Vanderbilt Genetics Institute (hiring of Dr. Nancy J. Cox)
- 2014 – 2016, Member, Genetics Executive Council
- 2015 – 2016, Member, Biomedical Sciences Advisory Committee
- 2016 – 2017, Member, Graduate Education and Research Endowment Committee
- 2017, Member, Graduate School Master's Program Evaluation Committee
- 2018, Member, Goldwater Scholar Internal Selection Committee
- 2018, Member, University Faculty Research Awards Committee
- 2018 – 2019, Member, Trans-Institutional Capital Planning Committee
- 2020 – 2021, Member, Promotions and Tenure Review Committee
- 2021 – 2022, Co-Chair, Promotions and Tenure Review Committee
- 2023 – 2024, Member, Dean of the College of Arts & Science Search Committee